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ABSTRACT

The Department of Defense Dependent Schools (DoDDS) is a unified school district operating schools in 20 foreign countries. As part of its efforts to assess the educational and social development of its students, DoDDS participated in the longitudinal study, High School and Beyond. The purpose of the present study was to describe those DoDDS sophomores who had stayed in the same high school over the two-year period 1980-1982. The overall pattern of findings paralleled those in the wider high school population. Four conclusions emerge from the analyses: (1) the data are very limited and generalizations have limited utility; (2) the students who stayed in the same high school differed significantly from those who left; (3) the pattern of relations between stayers' characteristics (such as gender, race, socioeconomic status) and cognitive test performance, employment, and plans for college are similar to the patterns reported for high school students at large; and (4) data on time spent on homework and time spent watching television suggest that DoDDS officials might consider policies that increase the homework. An appendix lists the definitions of the variables used in various analyses. (JAZ)

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PREFACE

This Note reports the findings of a research project, "Department of Defense Dependents Schools: High School Class of 1982," which was undertaken within Rand's Defense Manpower Research Center. The research was requested by the Department of Defense Dependents Schools (DoDDS) system as part of an ongoing assessment of its students' educational and social development. The aim was to provide information to DoDDS administrators, Department of Defense officials, educators, parents, and the public at large on the DoDDS 1982 seniors' cognitive test performance, high school experience, activities outside school, and plans for college. The project was supported by the Office of the Assistance Secretary of Defense for Force Management and Personnel.

SUMMARY

The Department of Defense Dependents Schools (DoDDS) is a unified school district operating 269 schools in 20 foreign countries on a budget of roughly a half-billion dollars. Unlike stateside schools, 90 percent of its student body, numbering roughly 138,000, are dependents of military personnel or of civilian personnel assigned to military bases; and most students change schools much more frequently than stateside students because of military personnel rotation.

As part of its efforts to assess the educational and social development of its students, and its effect on its students' futures, DoDDS participated in the longitudinal survey of high school youth, High School and Beyond (HS&B). The HS&B survey included questionnaires and cognitive tests covering experiences in and out of school, aptitude and achievement test performance, and post high-school plans as well as home and social background characteristics of the respondents. The HS&B base-year (1980) survey of DoDDS sampled 1,638 sophomores or roughly 24 percent of the total sophomore class. DoDDS followed up in 1982 only those 1980 sophomores who had remained in their same high schools ("stayers"); the 1982 sample was thus reduced by three-fourths to 423.

The purpose of this study was to describe those DoDDS sophomores who had stayed in the same high school over the two-year period, spring 1980-1982. Because these "stayers" differed from their peers in 1980 on measures of background characteristics, cognitive performance, and life values, no comparisons were made, for example, between stayers and stateside seniors. The stayers were not representative of the entire DoDDS class of 1982.

The overall pattern of findings for the stayers parallels those found in the wider high school population. Males scored higher on cognitive tests of mathematics and science than females, and females scored higher than males in verbal ability. Hispanics and blacks scored lower, on average, than (non-Hispanic) whites and Asians on tests of verbal and mathematical ability, and science achievement. Test scores were also positively related to the stayers' socioeconomic status and the academic rigor of their high school program.

With respect to high school experiences, male stayers reported taking, on average, more semesters of coursework in mathematics than female stayers, and females reported taking more semesters of foreign language and business. Stayers tended to take less than four semesters of science over a three year period (below that recommended by the National Commission on Excellence in Education); and only about 38 percent of the stayers spent one or more hours per day on homework. Nevertheless, they reported a mean grade-point-average of "mostly B," with females reporting higher grades than males.

Over half the stayers were employed at the time of the survey and another 16 percent were looking for jobs. Those who were employed reported working, on average, 15 hours per week and earning $3.00 per hour. Although females worked almost as many hours as males, they earned less per hour.

Fully 69 percent of the stayers reported that they planned to enter college in the fall. The percentage of stayers planning to enter college increased with increasing socioeconomic status, academic orientation of their high school program, and cognitive test performance. Of the college-bound stayers, two-thirds planned to use some form of financial aid; 56 percent planned to use federal aid and 53 percent nonfederal aid. By far the most "popular" forms of federal aid were "Pell grants" and College Work Study. Business and engineering were the most popular majors, with a greater percentage of males than females intending to enter engineering and computer science and a greater percentage of females planning on health services and teaching majors.

Throughout the analyses, the number of hours a student spends watching television was negatively related to cognitive-test performance, grades, participation in academic clubs or school government, and plans for college. Moreover, only 38 percent of the stayers spent five or more hours per week on homework, and cognitive test scores and grades increased as the percent of stayers spending five or more hours per week on homework increased. Based on these findings, DoDDS officials might review additional data or collect new data bearing on television watching, homework, and academic performance indicators.

If these additional analyses corroborate the findings of this study, a policy to increase the amount of homework assigned in its high schools might be formulated and its implementation closely monitored.

Readers are cautioned that selection factors (e.g., the Department of Defense rotates overseas military personnel every three years so that most 1980 sophomores would be expected to have changed schools by their senior year) cause the stayer sample to differ systematically from the "leaver" sample. The findings presented here should therefore not be interpreted as representative of the DoDDS 1982 senior class as a whole. Moreover, because of the substantially reduced sample, statistics reported for subdivisions of the stayers (e.g., by high school program, race/ethnicity) are based on precariously small sample sizes. Many statistical estimates presented here, therefore, have very broad confidence intervals.

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I. INTRODUCTION

The Department of Defense Dependents Schools (DoDDS) are organized into a unified school district operating on a budget of roughly a half-billion dollars annually. The district includes five regions covering 20 foreign countries, 269 schools, roughly 138,000 students, 7,000 teachers and 4,500 administrators and other staff (GAO, 1982; Bartell et al., 1983a; Bartell et al., 1983b).

DoDDS is unlike any other school district in the United States. Operated by the Department of Defense, it was created in 1946 to serve dependents of military and civilian personnel serving overseas. As a consequence, the school system is geographically dispersed with a large number of schools relative to the number of students (Bartell and LeBlanc, 1983). DoDDS currently enrolls, tuition free, dependents of DoD military and civilian personnel assigned overseas, and dependents of (a) Americans who are federal employees, (b) employees of private companies under federal contract, and (c) foreign nationals. (Less than 10 percent of the student body pays tuition; GAO, 1982.) Primarily because of military rotation, DoDDS' students exhibit far greater transiency than do students in stateside schools: 93 percent of the DoDDS students reported changing schools (aside from moving from elementary to junior high to high school) one or more times since fifth grade (Cardinale, 1981). Only 7 percent of stateside students change schools.

As part of its efforts to assess the "educational and social development of its students and the impact of the dependents' schools on the future lives of those students" (Cardinale, 1981, p. 1), DoDDS participated in High School and Beyond (HS&B), a longitudinal study of American youth as they pass through the nation's secondary schools and assume adult economic and social roles (e.g., Jones et al., 1983). Questionnaires and cognitive tests cover school experiences, activities, attitudes, aptitude- and achievement-test performance, and post high-school plans and aspirations as well as home and social background characteristics. The base-year survey, conducted in 1980 (with two-

year followups planned), sampled over 30,000 stateside sophomores and 28,000 seniors, and within DoDDS, 1,638 sophomores and 1,415 seniors.

The purposes of this study were to update the descriptive study of DoDDS 1980 sophomores conducted earlier (Cardinale, 1981) and characterize the DoDDS senior class of 1982 (sophomores in 1980), comparing DoDDS seniors with 1982 seniors in stateside public, private, and parochial schools.[1] The goal was to provide information to DoDDS administrators, DoD officials, educators, parents, and the public at large on the DoDDS 1982 seniors' cognitive-test performance, high school experiences, activities outside school, and plans for college.

The next section describes the sample of DoDDS students and the procedures used to collect data. Decisions made by DoDDS administrators regarding participation in HS&B reduced the sophomore cohort in 1980 by 75 percent to 423 in 1982. As a consequence, the purposes of this study were significantly modified to provide a profile of the sample of 423 DoDDS 1982 seniors who, in spring of 1982, had not left the high school they attended in spring 1980.

The third section reports data on the cognitive-test performance of the "stayers." Not unexpectedly, female stayers scored higher, on average, than males in verbal ability, and male stayers scored higher than females in quantitative ability; and whites and Asians scored higher on both tests than did Hispanics or blacks. Cognitive-test performance increased, on average, with increasing socioeconomic status and greater academic rigor in the stayers' high school program.

The fourth section describes the high school experiences of the stayers. Stayers in academic programs took more semesters of mathematics, science, and foreign language than did stayers in general or in vocational programs. However, only 38 percent of the stayers spent, on average, one or more hours per night on homework, and time spent on homework was positively related to cognitive-test performance. Stayers' grades reflected grade inflation, biases in recall of grades, or both: The average grade-point-average was reported to be mostly Bs (81 on a 100 point GPA scale). Although only one in ten stayers

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[1]For a comparison of DoDDS 1980 *seniors* with stateside seniors in that year, see Bartell et al. (1983a).

The fifth section describes the stayers' activities outside of school. Over half the stayers were employed and another 16 percent were looking for jobs. Although girls reported working roughly the same amount of time as boys (15 hours per week, on average), they earned less ($2.82 per hour for girls and $3.20 for boys).

The sixth section presents data on the stayers' plans for attending college. No less than 69 percent of the stayers planned to enter college in the fall. As socioeconomic status, cognitive-test performance, and academic rigor of the high school program increased, so did the percentage of stayers planning to enter college. That percentage decreased, however, as the number of hours of television watching increased per day. Two-thirds of the stayers planning to enter college also planned to use some form of financial aid. Of all federal programs, by far the most popular were Pell grants (24 percent) and college work study (38 percent). Business and engineering were the most popular majors; a greater percentage of males planned on majoring in engineering and computer science, and a greater percentage of females planned on entering health sciences and education.

The last section draws conclusions from the study findings.

II. PROCEDURES AND SAMPLE

In this section, procedures are summarized for collecting data in DoDDS. Then the DoDDS sophomores in 1980 who did not participate in the follow-up survey ("leavers") are compared with the sophomores in 1980 who participated in the 1982 survey ("stayers"; see Fig. 1).[1] Finally, implications are drawn for reporting and interpreting data presented in the remainder of the Note.

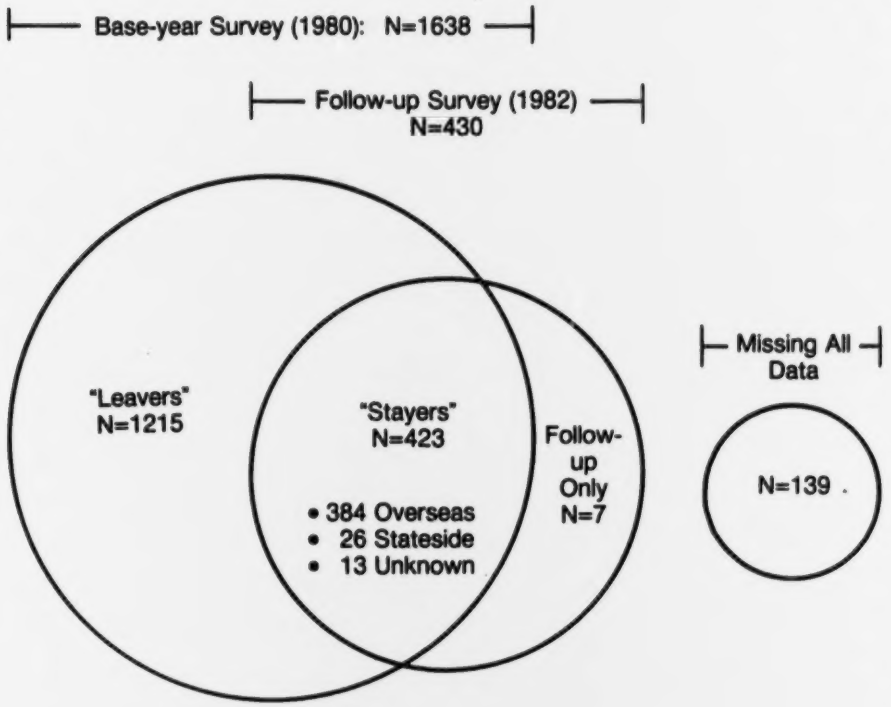

Fig. 1 -- High School and Beyond base-year and first follow-up survey of DoDDS sophomores in 1980

[1]Apparently 136 of the 139 missing cases had their identification numbers corrected and are contained in the sample and identified by different numbers. These old numbers had not been removed from the data tape.

PROCEDURES

In general, the 1980 administration of HS&B in DoDDS closely paralleled the stateside administration. The instruments and data collection procedures "were the same as those used by the contractor for the U.S. sample, the National Opinion Research Center (NORC). Survey administration manuals carefully scripted the process to insure uniformity and the replicability of procedures from site to site" (Cardinale, 1981, p. 1).

A one-stage sampling procedure drew 36 students' names randomly from tenth grade enrollment lists in each of 59 high schools. If enrollments fell below 36, the entire tenth grade class was included in the sample. Specifically, schools were provided with lists of participating and alternative students; changes in the sample or replacement of students who did not participate because of absence, refusal, or change of school were not permitted. A total of 1,638 students or approximately 24 percent of the sophomore enrollment in DoDDS in spring 1980 participated in the survey. Roughly half were male, and one-fourth were minorities.

The first followup of DoDDS sophomores in 1982 diverged from the stateside procedures. Stateside students who had graduated early, dropped out of school, or transferred to different high schools were included in the sample along with students who had remained at the same high school. Based on both financial and substantive grounds, DoDDS decided to follow up the 1980 senior cohort extensively and, with a few exceptions, to collect data only from those 1980 sophomores who had remained in the same high school as of spring 1982 (see Fig. 1; Personal Communication, Ricki Takai, National Center for Education Statistics, March 1984; and Mary Johnson, DoDDS, October 1984). The consequence of this policy decision, predictable in part because of the transiency of DoDDS students, and of the 20 percent decrease in the number of DoDDS schools returning documents in the first followup, was that three-fourths of the cohort was lost. Of the 423 students responding to the questionnaire and cognitive tests in 1982, approximately 54 percent were male, 33 percent were minorities, and roughly 80 percent were of middle or upper socioeconomic status.

THE SAMPLE: COMPARISONS OF STAYERS AND LEAVERS

With the substantial loss of students, attention was directed toward the similarities and differences between stayers (N=423) and leavers (N=1,215). For example, 60 percent of the stayers' fathers were serving in the military but 76 percent of the leavers' fathers were; 19 percent of the stayers' fathers held professional or managerial jobs but only 8 percent of the leavers' fathers held these jobs. This comparison addressed whether systematic differences exist between the two groups so as to cast doubt about drawing inferences from the sample of stayers to the DoDDS senior class of 1982.[2] Inevitably, the answer must be yes. Stayers are clearly different from most DoDDS students in terms of transfer, fathers' occupation, and, as will be seen, other variables.

To characterize the similarities and differences between the stayers and leavers, the two groups were compared on background characteristics, school participation variables, cognitive-test performance, and life values. Systematic differences were found on each set of variables.[3]

With respect to background characteristics (Table 2.1), a significantly greater percentage of stayers (54 percent) than leavers (46 percent) were male. The stayer cohort tended to have a greater percentage of Hispanics (15 percent) and fewer (non-Hispanic) whites (67 percent) than did the leaver cohort. Although not statistically significant, a greater percentage of stayers were of upper socioeconomic status (31 percent) than were leavers (27 percent), and roughly the same percentage of the two cohorts were middle SES (47 percent and 46 percent, respectively).

The distributions of stayers and leavers differed on school participation variables (Table 2.2), reflecting slightly higher (though not statistically significant) overall cognitive-test performance for

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[2]We use sophomores in 1980, or seniors in 1982, or the senior class in 1982 interchangeably.

[3]Variables are defined in the appendix. All statistical tests conducted at $\alpha = .05$ throughout, using either analysis of variance or χ^2. The standard error of a proportion is $[p(1-p)/n]^{.5}$ where p is the estimated proportion and n is the number of cases on which the proportion is based.

Table 2.1

COMPARISON OF 1980 SOPHOMORE STAYERS AND LEAVERS[a] ON BACKGROUND CHARACTERISTICS
(Percent in parentheses)

	Stayers	Leavers
All students[b]	423 (25.8)	1215 (74.2)
Gender		
Male	229 (54.1)	565 (47.7)
Female	194 (45.9)	620 (52.3)
Race		
Hispanic	65 (15.4)	81 (6.7)
American Indian	2 (0.5)	10 (0.8)
Asian	30 (7.1)	61 (5.0)
Black	36 (8.5)	111 (9.1)
White	284 (67.1)	865 (71.2)
Other	6 (1.4)	87 (7.2)
Socioeconomic status		
Low	78 (21.5)	273 (26.9)
Middle	172 (47.4)	467 (46.1)
High	113 (31.1)	274 (27.0)

[a]Leavers are 1980 sophomores who did not participate in the 1982 followup, for various reasons (e.g., drop out, transfer, early graduation).

[b]Because of missing data, not all sums will add to the total of all students.

stayers, with a greater percentage of stayers than leavers in the academic track (32 percent and 26 percent, respectively) and fewer in the vocational track (10 percent rather than 14 percent). Stayers tended not to move around as much as leavers; 13 percent of the stayers compared with 6 percent of the leavers had not changed schools since fifth grade (except for normal progression from elementary to junior high to high school). Regardless of cohort, a high percentage of parents monitored the progress of their children (90 percent and 89 percent, for stayers and leavers, respectively).

Table 2.2

COMPARISON OF 1980 SOPHOMORE STAYERS AND LEAVERS ON SCHOOL-RELATED VARIABLES
(Percent in parentheses)

	Stayers	Leavers[a]
Cognitive test performance		
Low	92 (22.0)	287 (24.0)
Middle	210 (50.2)	587 (49.1)
High	116 (27.8)	322 (26.9)
High school program		
Academic	131 (31.6)	308 (26.1)
General	240 (58.0)	707 (59.8)
Vocational	43 (10.4)	167 (14.1)
Number of school changes since 5th grade		
None	53 (12.5)	68 (5.6)
One	70 (16.5)	264 (21.9)
Two	108 (25.5)	275 (22.8)
Three or more	192 (45.4)	597 (49.6)
Parents monitor school work		
No	43 (10.2)	133 (11.1)
Yes	377 (89.8)	1067 (88.9)

[a]Leavers are 1980 sophomores who did not participate in the 1982 followup, for various reasons (e.g., drop out, transfer, early graduation).

Stayers scored, on average, significantly higher than leavers on the mathematics 1 and writing subtests, and on the mathematical ability composite (mathematics 1 and 2 combined). Moreover, stayers scored higher, on average, than leavers on every other measure (Table 2.3), although these remaining differences were not statistically significant.

Finally, stayers differed significantly from leavers in the importance they assigned to three of 12 life values (see Table 2.4). Specifically, more stayers (36 percent) than leavers (30 percent) indicated that money was very important, and fewer stayers than leavers indicated that providing better opportunities for their children (66

Table 2.3

COMPARISON OF 1980 SOPHOMORE STAYERS AND LEAVERS ON COGNITIVE TEST SCORES
(Means)

	Stayers	Leavers[a]
Vocabulary	10.20	10.15
Reading	8.86	8.64
Writing	10.73	10.14
Mathematics 1	13.68	12.56
Mathematics 2	3.50	3.28
Science	10.53	10.24
Verbal ability	29.78	28.93
Mathematical ability	17.18	15.87

[a]Leavers are 1980 sophomores who did not participate in the 1982 followup, for various reasons (e.g., drop out, transfer, early graduation).

percent and 72 percent, respectively) and getting away from "this area" was very important (31 percent and 39 percent, respectively).

LIMITATIONS OF INTERPRETATION

The stayers' backgrounds, school participation, achievement test scores and life values differed systematically from those of leavers. Stayers, then, represented a different population of DoDDS sophomores in 1980 than leavers. There is every reason to believe that this difference continued to persist into the senior year even though data on leavers in 1982 are not available for a direct comparison. For this reason, drawing inferences from the senior "stayer" class of 1982 to the entire DoDDS class of 1982 is unwarranted.

Small sample sizes further limit the generalizability of these findings. In the sections that follow, data are reported by gender, race/ethnicity, socioeconomic status, high school program, time spent watching television, hours worked outside school, and more. As a

Table 2.4

COMPARISON OF 1980 SOPHOMORE STAYERS AND LEAVERS ON LIFE VALUES RATED AS "VERY IMPORTANT" (Percent in parentheses)

	Stayers	Leavers[a]
Being successful in my line of work	365 (86.5)	1021 (85.1)
Being able to find steady work	355 (86.0)	1019 (85.7)
Finding the right person to marry and having a happy life	326 (77.8)	976 (81.2)
Having strong friendships	357 (85.2)	1012 (84.4)
Being able to give my children better opportunities than I have had	271 (65.8)	852 (71.5)
Having leisure time to enjoy my own interests	287 (68.3)	841 (69.9)
Having children	138 (33.0)	410 (34.3)
Having lots of money	149 (35.5)	362 (30.1)
Living close to parents and relatives	68 (16.3)	189 (15.9)
Getting away from this area of the country	129 (30.8)	456 (38.5)
Working to correct social and economic inequities	85 (20.5)	228 (19.2)
Being a leader in my community	46 (11.1)	138 (11.6)

[a]Leavers are 1980 sophomores who did not participate in the 1982 followup, for various reasons (e.g., drop out, transfer, early graduation).

consequence, the sample of 423 cases is spread thin in many analyses as the sample sizes in Tables 2.1 and 2.2 indicate.

This study, at best, characterizes the DoDDS "stayer" class of 1982. It is, therefore, quite limited in scope and consequently may be of limited utility.

III. COGNITIVE-TEST PERFORMANCE

The nation judges the quality of education largely by cognitive-test scores, and DoDDS takes pride in the performance of its students on standardized achievement tests (e.g., Bartell et al., 1983a). In this section, two analyses of the stayers' cognitive-test performance are presented. The first analysis characterizes the mean test performance of the stayers in 1982 overall, and by selected background and school participation variables. The second analysis presents mean percentages of stayers whose test scores increased from 1980 to 1982. First, however, the psychometric characteristics of the HS&B tests are described.

CHARACTERISTICS OF THE COGNITIVE TESTS

The sophomore test battery in HS&B contained three aptitude tests (vocabulary, reading, mathematics-1) and four subject-matter tests (mathematics-2, science, writing, and civics education; Heyns and Hilton, 1982). Information on the psychometric properties of these tests is presented in Table 3.1. (The data are taken from stateside sophomores in 1980.) The means and standard deviations indicate that the score distributions are probably symmetric, as would be expected, and that there is no evidence of floor or ceiling effects. The reliabilities are adequate for making mean comparisons, although tests with only ten items exhibit lower reliability than is desirable.

Although the tests were designed to measure verbal and quantitative aptitudes, and achievement in four subjects, the Heyns and Hilton (1982, p. 95) factor analysis did not retrieve this structure. Rather, two factors emerged. One was a verbal factor that included vocabulary (factor loading = .83), reading (.86), science (.61), writing (.61), and civics (.69). The other was a quantitative factor containing Mathematics-1 and 2 (.94 and .72, respectively). The two factors were highly correlated, r = .84. Rock replicated these findings in a current study of "Excellence in High School Education" using sophomore test

Table 3.1

PSYCHOMETRIC PROPERTIES OF SOPHOMORE COHORT COGNITIVE TESTS IN HIGH SCHOOL AND BEYOND

Test	Number of Items	Mean	Standard Deviation	Reliability (KR-20)
Vocabulary	21	10.8	4.4	.81
Reading	19[a]	9.0	3.9	.78
Mathematics-1	28	14.3	5.9	.85
Mathematics-2	10	4.3	2.1	.54
Science	20	10.8	3.8	.75
Writing	17	10.2	4.0	.80
Civics Education	10	5.8	2.0	.53

SOURCE: After Heyns and Hilton, 1982, p. 93.

[a]One of the original 20 reading items was not scored.

scores from 1980 and 1982 (Donald Rock, Personal communication, July 1984).[1]

In this section, data are reported on a verbal composite (vocabulary, reading, and writing), a quantitative composite (mathematics-1 and 2), and on the science subtest because of national concern about student achievement in this subject matter. Keep in mind, however, that the science subtest is strongly influenced by verbal aptitude and may not warrant subject-matter-specific interpretation as constituted in the HS&B data set.

STAYERS' COGNITIVE-TEST PERFORMANCE

Data on stayers' mean test performance are presented in Table 3.2. The finding that females scored higher on verbal aptitude and males scored higher on quantitative aptitude replicates past research on aptitudes. The gender difference is also significant on the science test.

[1]These findings are not surprising in light of the fact that the subject-matter tests were designed to be of moderate difficulty and not to reflect any special or advanced curricular offerings. For example, the mathematics-2 subtest did not contain calculus items.

Table 3.2

MEAN VERBAL, MATHEMATICS, AND SCIENCE SCORES OF STAYERS BY SELECTED CHARACTERISTICS[a]

Characteristic	Test Scores		
	Verbal	Mathematical	Science
Total	37.6	20.1	12.0
Gender			
Male	36.6	21.2	12.4
Female	38.7	18.9	11.6
Race/ethnicity			
Hispanic	32.4	17.3	10.5
American Indian	-	-	-
Asian	36.8	23.5	12.3
Black	32.7	13.8	10.9
White	39.6	21.2	12.5
Other	-	-	-
Socioeconomic status			
Low	35.2	17.7	11.1
Middle	17.4	20.9	12.0
High	42.7	24.0	13.5
High school program			
Academic	43.2	25.3	13.5
General	34.5	17.3	11.3
Vocational	30.0	13.0	10.0
Time spent watching TV on weekdays			
None	40.6	22.3	12.8
Less than three hours	39.3	21.6	12.4
Three or more hours	33.0	16.4	11.1

[a]Percentages based on fewer than 20 cases omitted.

with blacks scoring substantially lower than Hispanics in mathematical aptitude.

Cognitive-test performance by socioeconomic status and high school program parallels findings replicated over and over again in the social science and education literature: Mean scores systematically increase as SES increases and as the high school program becomes increasingly academic in orientation.

Cognitive-test performance by socioeconomic status and high school program parallels findings replicated over and over again in the social science and education literature: Mean scores systematically increase as SES increases and as the high school program becomes increasingly academic in orientation.

Time spent watching television is negatively associated with test performance. As time increases, mean test scores decrease.

COGNITIVE-TEST SCORE CHANGES

Cognitive test scores might be expected to increase from sophomore to senior years as a function of school and nonschool experiences. To be consistent with reports from the National Center for Education Statistics (NCES), change was indexed by the percentage of stayers who earned a higher score at the 1982 testing than at the 1980 testing. A reasonable assumption is that the higher this percentage, the greater the likelihood that cognitive change occurred, although the magnitude of this change cannot be determined. Finally, if no change in ability occurred, the observed percentage change is expected to be 50 percent. Half the stayers would show score increases by chance; the other half, chance decreases.

The percentage change for stayers reflects systematic growth in cognitive-test scores, although the cause of the growth cannot be isolated by this analysis (Table 3.3). Approximately 89 percent of the stayers increased their verbal scores, but far fewer increased their mathematics (70 percent) and fewer still their science scores (62 percent). More specifically, males tended to increase their mathematics scores more than females while the reverse was found with science scores. Neither of these gender differences, however, was statistically significant.

Although not statistically significant, a clear pattern of change emerged across racial/ethnic groups. A greater percentage of whites and Asians increased their verbal test scores than did Hispanics or blacks. A greater percentage of whites, and to a lesser extent Hispanics, increased their mathematics scores than did Asians or blacks. Finally,

Table 3.3

PERCENTAGES OF STAYERS WITH HIGHER VERBAL, MATHEMATICS, AND SCIENCE TEST SCORES IN 1982 THAN IN 1980 BY SELECTED CHARACTERISTICS[a]

Characteristic	Test Scores		
	Verbal	Mathematical	Science
Total	89.2	70.4	62.3
Gender			
Male	88.9	71.9	61.8
Female	89.5	68.8	62.8
Race/ethnicity			
Hispanic	84.4	68.8	67.2
American Indian	--	--	--
Asian	89.7	58.6	44.8
Black	85.3	57.6	63.6
White	90.1	73.4	62.7
Other	--	--	--
Socioeconomic status			
Low	91.8	62.5	62.2
Middle	89.2	70.1	65.1
High	90.0	80.0	60.9
High school program			
Academic	87.1	77.3	66.7
General	89.2	67.0	56.2
Vocational	89.4	59.6	70.2

[a]Percentages based on fewer than 20 cases omitted.

a substantially smaller percentage of Asians increased their science scores than did Hispanics, blacks, or whites.

The percentage increase in verbal scores was uniformly high for each level of SES and high school program. The percentage of stayers who improved their mathematics scores significantly increased with increasing SES and academic rigor of their high school program. For science achievement, the pattern is mixed for SES and program. The highest percentage of stayers who increased their science scores was found in the middle SES group and in the vocational program.

IV. HIGH SCHOOL EXPERIENCES

COURSE TAKING

The National Commission on Excellence in Education (1983) recommended the following curricular requirements for graduation from a four year high school: (1) eight semesters of English; (2) six semesters each of mathematics, science, and social science; (3) one semester of computer science; and, for college bound students, (4) four semesters of foreign language.

The HS&B survey provides data that bear on the Commission's recommendation. However, HS&B asked students to describe their course-taking for a three-year period, sophomore through senior year, not the four-year period envisioned by the Commission. Table 4.1 presents the Commission's requirements adjusted for the three-year period. To what extent do the stayers' curricular takings meet these requirements?

Data bearing on this question are presented in Table 4.2 by gender and high school program. Male and female stayers' course taking fell

Table 4.1

ADJUSTED COMMISSION GRADUATION REQUIREMENTS[a]

Curricular Area	Number of Semesters
English	6
Mathematics	4-6
Science	4-6
Social science	4-6
Computer science	1
Foreign language	2-4

[a]The National Commission on Excellence in Education (1983) recommended graduation requirements for four years of high school. These requirements were adjusted to reflect three years of high school, sophomore to senior year.

within the bounds of these requirements with the striking exception of science. Both genders took less science than recommended for graduation. More specifically, males reported taking, on average, significantly more semesters of coursework than females in mathematics, trade, and technical subjects, and fewer in foreign language and business. The genders did not differ in average number of semesters of English and social studies.

Course taking of stayers in the academic program fell within the bounds of the Commission's graduation requirements; these students reported taking significantly more coursework in mathematics, foreign language, and science than did stayers in the general or vocational programs.

Table 4.2

MEAN NUMBER OF SEMESTERS OF COURSEWORK TAKEN BY STAYERS IN VARIOUS FIELDS OF STUDY (1980-1982), BY SEX OF STUDENT AND HIGH SCHOOL PROGRAM

	Gender		High School Program		
Field of Study	Male	Female	Academic	General	Vocational
Mathematics	4.8	4.4	5.2	4.3	3.9
English	6.2	6.2	6.3	6.2	6.1
Foreign language[a]	2.6	4.0	3.9	3.1	2.7
Social studies	5.1	5.0	4.9	5.1	5.0
Science	3.7	3.5	4.4	3.4	2.9
Business[b]	1.6	3.3	2.2	2.4	2.5
Trade[c]	1.5	0.4	0.7	1.0	1.6
Technical[d]	1.7	0.6	1.2	1.1	1.6

[a]French, German, Spanish, or "other" foreign language.

[b]Business and/or sales courses.

[c]Trade and/or industrial courses.

[d]Technical courses.

The curricula taken by stayers in the general program fell short of the Commission's graduation requirements in English and science. And the course taking of stayers in the vocational program reflects this program's emphasis on business, trade, and technical courses, although the differences among programs are not statistically significant.

TIME SPENT ON HOMEWORK

The Beginning Teacher Evaluation Study (Fisher et al., 1978) established the link between academic learning time (ALT) and student achievement; achievement increases as ALT increases. With homework, ALT can be extended beyond the boundaries of the school day. Not surprisingly, then, gains in student achievement are also positively related to time spent on homework (e.g., Coleman, Hoffer, and Kilgore, 1982). For these reasons, the amount of time stayers spent on homework was examined.

Only 38 percent of the stayers reported spending five or more hours a week (or one or more hours per night) on homework (Table 4.3). (Only 29 percent of stateside seniors spent this much time on homework.) A greater percentage of females (44 percent) than males (32 percent) spent five or more hours per week, while a greater percentage of stayers in the academic program (48 percent) than in the general (30 percent) or vocational (28 percent) program spent five or more hours on homework.

Time spent on homework was positively related to base-year cognitive test scores overall, for boys and girls, and for stayers in each high school program.

A greater percentage of stayers reporting that they worked less than 30 hours per week tended to spend five or more hours per week on homework than did stayers working more hours.

As might be expected, the greater the number of hours spent watching television, the less time spent on homework overall, for males and females, and within each high school program.

Table 4.3

PERCENTAGES OF STAYERS WHO SPENT AT LEAST FIVE HOURS PER WEEK ON HOMEWORK IN SPRING 1982 BY SELECTED CHARACTERISTICS[a]

Measure	All Students	Gender		High School Program		
		Male	Female	Academic	General	Vocational
All students	37.7	32.1	44.3	47.5	30.1	27.7
Cognitive test performance						
Low	32.2	22.7	41.3	--	30.4	--
Middle	36.5	31.5	42.3	46.6	32.7	--
High	41.7	36.4	49.0	50.0	18.8	--
Hours worked for pay per week						
0	30.1	34.8	47.9	52.1	32.9	--
1 - 29	47.9	30.6	41.4	44.0	28.4	33.3
30 or more	28.6	--	--	--	--	--
Time spent watching TV on weekdays						
None	41.8	38.5	47.1	--	25.0	--
Less than 3 hours	39.5	32.0	47.2	48.8	29.2	--
3 or more hours	31.1	28.2	35.4	36.1	31.9	--

[a]Percentages based on samples of size 20 or less omitted.

GRADES

In the HS&B survey, stayers reported their grades "so far in high school" on a 100 point scale with 94 representing mostly A, 82 mostly B, and so on. Table 4.4 provides a breakdown of the GPA metric used in this study.

Overall, the mean GPA was 81 or mostly B (Table 4.5). This probably reflects both grade inflation and the stayers' inflated grade reports due to recall biases (e.g., availability, Tversky and Kahneman, 1974), or an attempt to present themselves in positive light. Females had higher GPAs, on average, than did males; and mean GPA increased as the stayers' high school program became increasingly academic.

Table 4.4

GRADE-POINT-AVERAGE METRIC

Grades	GPA Metric
Mostly A	94
About half A and B	87
Mostly B	82
About half B and C	77
Mostly C	72
About half C and D	67
Mostly D	62
Mostly below D	57

Mean GPA also significantly increases as base-year cognitive-test performance and time spent on homework increase. This relation holds regardless of gender or high school program. As time spent watching television increases beyond three hours per day, GPA decreases regardless of gender or program.

PARTICIPATION IN FEDERALLY FUNDED PROGRAMS

The federal government has funded a number of education and work programs to help students, especially disadvantaged students, complete high school. Stayers were asked to indicate whether they had, during their junior or senior year, participated in any of the following programs: Cooperative Vocational Education Program ("Co-op"), Vocational Education Work Study Program ("Work-study"), Talent Search, Upward Bound, or a CETA program (e.g., Youth Employment and Training Program).

Less than one-fourth of all stayers participated in one or more such program, and less than 7 percent participated in CETA, Talent Search, or Upward Bound (Table 4.6). Although not statistically significant, participation tended to increase as SES decreased, and as the high school program became increasingly nonacademic. A greater percentage (but not significantly so) of black stayers than stayers in any other racial/ethnic group tended to participate, especially in Co-op or Work-study programs.

Table 4.5

MEAN GRADE POINT AVERAGES OF STAYERS AT THE END OF THEIR SENIOR YEAR, BY SELECTED CHARACTERISTICS[a]

Characteristics	All Students	Gender		High School Program		
		Male	Female	Academic	General	Vocational
All students	81.2	80.2	82.4	85.4	78.5	76.7
Cognitive test performance						
Low	74.8	72.7	76.9	76.6	75.1	73.4
Middle	81.0	80.0	82.2	83.9	79.0	78.1
High	86.6	85.5	88.0	88.4	83.0	83.0
Time spent on homework						
Less than 1 hour	76.2	75.5	78.8	81.1	74.4	75.6
1 to 5 hours	80.6	79.7	81.6	84.1	79.0	75.9
More than 5 hours	84.0	84.1	83.9	87.3	80.2	79.1
Hours worked for pay per week						
0	82.7	81.7	83.8	86.7	80.1	75.9
1 - 29	80.7	79.1	82.3	84.4	77.7	78.1
30 or more	77.5	--	--	--	--	--
Time spent watching TV on weekdays						
None	82.7	80.4	86.2	86.4	80.0	78.3
Less than 3 hours	82.2	81.2	83.3	86.2	79.0	77.3
3 or more hours	78.6	78.3	79.0	82.1	77.3	75.3

[a]Means based on fewer than 20 cases omitted.

PARTICIPATION IN REMEDIAL, HONORS, AND BILINGUAL PROGRAMS

Stayers were asked whether, during their junior and senior year, they had participated in any remedial, honors, or bilingual courses or programs. Twenty-one percent of the stayers reported participating in remedial English, 13 percent in remedial mathematics, and 9 percent in both such courses (Table 4.7). A greater percentage of males than females participated in remedial English; roughly the same percentage of males and females participated in remedial mathematics. (Neither

Table 4.6

PERCENTAGES OF STAYERS WHO HAD PARTICIPATED IN VARIOUS FEDERALLY FUNDED HIGH SCHOOL PROGRAMS AS OF SPRING 1982, BY SELECTED CHARACTERISTICS[a]

Characteristics	Any of Five Programs	Either Co-op Voc. Ed. or Voc. Ed. Work-Study	Either Talent Search or Upward Bound	CETA Work Program
All students	23.8	18.3	3.1	6.5
Socioeconomic status				
Low	30.3	17.9	3.8	13.2
Middle	25.7	19.9	3.5	5.9
High	16.4	12.5	1.8	2.7
Race/ethnicity				
Hispanic	25.8	15.4	4.7	9.5
American Indian	--	--	--	--
Asian	26.7	16.7	3.3	6.7
Black	33.3	30.6	2.9	2.9
White	23.8	17.7	2.5	6.8
Other	--	--	--	--
High school program				
Academic	16.2	11.7	3.4	2.8
General	30.7	23.6	2.6	7.4
Vocational	37.8	22.9	4.3	19.6

[a]Percentage based on samples of size 20 or less omitted.

difference was statistically significant.) And, not surprisingly, as the stayers' high school program becomes increasingly academic, participation in remedial coursework decreased.

With respect to honors courses, 22 percent of the stayers reported participating in honors English, 19 percent in honors mathematics, and 8 percent in both. As expected, a greater percentage of females than males reported participating in honors English and vice versa in honors mathematics, although these differences were not statistically significant. A significantly greater number of stayers in the academic program reported participating in honors courses than stayers in the other two programs.

Table 4.7

PERCENTAGES OF STAYERS WHO TOOK REMEDIAL, HONORS, OR BILINGUAL COURSES IN THEIR JUNIOR OR SENIOR YEARS, BY GENDER AND HIGH SCHOOL PROGRAM

Course or Program	All Students	Gender		High School Program		
		Male	Female	Academic	General	Vocational
Remedial						
English	21.1	24.5	17.2	10.6	27.9	33.3
Mathematics	12.6	12.2	13.0	5.6	15.2	29.2
Both English and mathematics	9.1	9.6	8.3	3.3	11.1	22.9
Advances or honors program						
English	21.6	18.8	24.9	32.8	11.5	20.8
Mathematics	19.3	21.8	16.1	28.3	12.6	12.5
Both English and mathematics	8.1	7.0	9.3	13.3	2.6	10.4
Bilingual or bicultural	16.4	14.5	18.8	15.1	19.5	8.3

Finally, about 16 percent of the stayers reported participating in bilingual education programs. Gender and program differences were not statistically significant.

INVOLVEMENT IN DISCIPLINARY PROBLEMS

Stayers responded to three questions regarding inappropriate school behavior. They were asked whether they had: (1) discipline problems in school last year, (2) been suspended or put on probation for disciplinary reasons, and (3) cut class every once in a while.

Although roughly one in ten stayers reported disciplinary and suspension/probation problems, fully two in five reported cutting class. Inappropriate behavior was significantly related to gender (a greater percentage of males reported discipline and suspension problems), to high school program (the percentage of stayers cutting class decreased as the program becomes increasingly academic), and to whether parents monitored their children's school work (stayers with involved parents reported cutting class less) (Table 4.8).

Table 4.8

PERCENTAGES OF STAYERS WITH DISCIPLINARY PROBLEMS, BY SELECTED CHARACTERISTICS[a]

Characteristic	Had Disciplinary Problems	Suspended or on Probation	Sometimes Cut Classes
All students	10.7	10.2	42.1
High school program			
Academic	7.3	7.2	34.4
General	13.6	11.0	50.0
Vocational	12.8	15.0	40.4
Race/ethnicity			
Hispanic	9.2	7.7	40.0
American Indian	--	--	--
Asian	10.0	0.0	50.0
Black	9.1	8.3	41.7
White	12.8	13.3	42.0
Other	--	--	--
Gender			
Male	13.5	15.3	45.0
Female	7.3	4.2	38.7
Time spent watching TV on weekdays			
None	10.3	11.6	37.2
Less than 3 hours	11.0	9.8	42.9
3 or more hours	13.1	9.8	42.1
Parents monitor school work			
No	16.1	14.3	55.5
Yes	9.9	9.1	39.8

[a]Percentages based on fewer than 20 cases omitted.

V. ACTIVITIES OUTSIDE SCHOOL

EMPLOYMENT

Roughly three-fourths of the stayers were either employed (58 percent) or looking for a job (16 percent) in spring 1982. Employment status was unrelated to gender, racial/ethnic background, or high school program (Table 5.1).

Table 5.1

EMPLOYMENT OF SOPHOMORES IN 1982 BY SELECTED CHARACTERISTICS[a]

	All Sophomores		Employed Sophomores			
	Percent Unemployed[b]	Percent Employed	Average Hours Worked Per Week	Average Earnings Per Week	Average Earnings Per Hour	Percent Receiving Job Training
All students	15.8	57.2	14.6	$48.00	$3.00	28.8
Gender						
Male	15.4	56.4	15.4	57.20	3.20	31.5
Female	16.2	58.1	13.6	39.20	2.82	25.7
Race/ethnicity						
Hispanic	20.0	52.3	16.1	50.80	2.80	38.2
American Indian	--	--	--	--	--	--
Asian	7.0	44.8	--	--	--	--
Black	13.9	58.3	18.8	--	--	47.6
White	16.1	59.6	13.9	45.30	3.00	23.5
Other	--	--	--	--	--	--
High school program						
Academic	17.4	54.5	13.1	53.10	2.90	26.0
General	13.2	57.7	16.0	42.00	3.00	28.3
Vocational	18.8	66.7	14.4	48.70	3.00	36.7

[a]Percentages based on samples of less than 20 omitted.

[b]Looking for work.

Regardless of race/ethnicity or high school program, those stayers who were employed worked, on average, 15 hours per week and earned an average of $3.00 per hour or roughly $48.00 per week. In contrast, although females worked, on average, about the same number of hours per week as males, their average hourly wages and consequently their average weekly incomes were significantly lower.

A significantly greater percentage of Hispanics and blacks received job training than did whites. Differences in training based on gender and high school program were not statistically significant.

In an attempt to shed light on the wage differential between males and females, the types of jobs held by the two sexes were examined (Table 5.2). Because of small sample sizes, none of the gender differences are statistically significant.

Table 5.2

PERCENTAGES OF EMPLOYED STAYERS HOLDING VARIOUS TYPES OF JOBS IN SPRING 1982, BY GENDER[a]

Type of Job	Male	Female
Lawn work or odd jobs	--	--
Waiter or waitress, bus boy, or cook	13.3	9.2
Babysitting or child care	4.0	24.5
Farm or agricultural work	--	--
Factory work (un- or semi-skilled)	--	--
Gas station, car wash, auto repairs	30.6	20.4
Other manual work	--	--
Store clerk	17.3	9.2
Office or clerical	10.2	17.3
Hospital or health	--	--
Delivery jobs	--	--

[a]Percentages based on fewer than 20 cases omitted.

PARTICIPATION IN EXTRACURRICULAR ACTIVITIES

A large percentage of the stayers participated in extracurricular activities. Indeed, roughly three-fourths were involved in organized team sports, 70 percent in academic clubs or student government, and 50 percent in community service (Table 5.3).

Participation in extracurricular activities varied by gender: A greater percentage of males participated in team sports, and a greater percentage of females participated in performing arts. Participation also varied as a function of the stayers' high school program. Not unexpectedly, the highest percentage of stayers participating in intellectual activities came from the academic program. And the smallest percentage participating in community service activities came from the general program (see Table 5.3).

Table 5.3

PERCENTAGES OF STAYERS WHO IN SPRING 1982 WERE PARTICIPATING IN VARIOUS TYPES OF ACTIVITIES EITHER IN OR OUT OF SCHOOL, BY GENDER AND HIGH SCHOOL PROGRAM

Type of activity	All Students	Gender		High School Program		
		Male	Female	Academic	General	Vocational
Team sports	74.4	83.7	63.4	75.7	74.2	72.9
Intellectual[a]	72.9	71.7	74.3	83.5	65.3	54.6
Performing arts[b]	43.5	36.4	51.9	38.5	45.7	54.3
Community service[c]	50.5	47.5	54.1	58.6	41.7	56.8
	At least once or twice a week					
Reading for pleasure	68.7	61.2	77.5	76.5	64.0	56.3
Going out on dates	56.4	55.2	58.0	52.3	59.6	61.4
Reading front page of newspaper	86.6	91.6	80.7	88.8	85.8	83.0

[a]Includes participation in honorary or subject-matter clubs, student government, or work on school newspaper or yearbook.

[b]Includes band or orchestra, chorus or dance, and debating or drama.

[c]Includes church, youth-group, or service club, and other types of community service activities.

Additional analyses, not shown in Table 5.3, found that: (1) Approximately 71 percent of the white stayers participated in team sports while 80 to 88 percent of the Asians, blacks, and Hispanics did; (2) a greater percentage of stayers whose parents monitored their school activities participated in team sports than stayers with less interested parents; and (3) roughly 80 percent of those stayers who watched television less than three hours per day participated in intellectual activities compared with only 59 percent of those who watched television more.

With respect to activities outside of school, 69 percent of the stayers reported reading for pleasure, 56 percent reported going on dates, and 87 percent reported reading the newspaper's front page (see Table 5.3). A greater percentage of females read for pleasure, and a greater percentage of males read the newspaper; the percentage of males going out on dates did not differ significantly from the percentage of females. The percentage of stayers who read for pleasure significantly increased as their high school program became increasingly academic.

Additional analyses, not presented in Table 5.3, showed a relationship between race/ethnicity and reading. The percentages reporting that they read for pleasure were, in descending order: white (72.9), Hispanic (64.0), Asian (56.7) and black (47.2). A smaller percentage of Hispanics (75.4) than Asians (86.7), blacks (88.6) and whites (88.6) reported reading the front page of the newspaper. Finally, a smaller percentage of television watchers (three or more hours per day) read for pleasure (61 compared with 71), but a greater percentage read the front page of the newspaper than did stayers who did not watch television (86 compared with 74).

VI. COLLEGE PLANS

PLANS FOR COLLEGE ATTENDANCE

According to Manski and Wise (1983, p. 1), "About half of all high school graduates make the transition from full-time high school education to full-time employment by acquiring additional schooling." Fully 69 percent of the stayers planned to enter college after high school (see Table 6.1), and Shavelson, Haggstrom, and Winkler (1983) found that the percentage of students planning to enter college in the spring is only about 10 percent higher than the percentage actually entering college the next fall.

Stayers' plans for college attendance systematically varied according to their background and school-participation characteristics. Consistent with the research literature (e.g., Manski and Wise, 1983; Shavelson, Haggstrom, and Winkler, 1983), as socioeconomic status, cognitive-test performance, and academic rigor of the stayers' high school program increases, a greater percentage of stayers plan to enter college. Furthermore, females were more likely to report they planned to enter college upon graduation than males (Table 6.1). The one exception, inconsistent with the literature (Manski and Wise, 1983), was that race/ethnicity was not significantly related to stayers' plans for attending college.

Additional analyses, not reported in Table 6.1, indicated that plans for college attendance systematically varied according to the amount of time stayers spent watching television and whether their parents monitored their high school studies. A substantially smaller percentage of stayers who watched television three hours per day or more (56 percent) planned to enter college than stayers who spent less than three hours in front of the television (74 percent). And a smaller percentage of stayers whose parents did not monitor their studies (57 percent) planned to enter college than stayers whose parents did (72 percent).

Table 6.1

PERCENTAGES OF STAYERS WHO IN SPRING 1982 PLANNED TO ENTER COLLEGE IN THE YEAR AFTER HIGH SCHOOL, BY SELECTED CHARACTERISTICS

Characteristics	Percentage Planning To Enter College After High School[a]
All students	69.4
Socioeconomic status	
Low	55.8
Middle	61.6
High	84.2
Race/ethnicity	
Hispanic	64.1
American Indian	--
Asian	80.0
Black	80.6
White	67.6
Other	--
Cognitive test performance	
Low	48.9
Middle	72.0
High	81.7
Gender	
Male	64.6
Female	75.1
High school program	
Academic	88.9
General	56.9
Vocational	47.9

[a]Percentages based on less than 20 cases omitted.

PLANS TO USE FINANCIAL AID

Until the 1970s, the federal government provided very little financial aid for postsecondary education. In 1973, the Basic Educational Opportunity ("Pell") grant program was introduced "and

became a major source of aid for low- and middle-income students. The program is now being reduced substantially" (Manski and Wise, 1983, p. 1). Given this reduced federal role, an important question is, To what extent do stayers in 1982 know about, and plan to use, various sources of federal and nonfederal aid?

In 1982, stayers had a wide choice of federal and nonfederal aid to choose from. These programs are listed in Table 6.2.

Table 6.2

SOURCES OF FEDERAL AND NONFEDERAL AID

Type	Federal	Nonfederal
Loan	National Direct Student Loan Program (NDSL) Federal Guaranteed Student Loan Program Nursing Student Loan Program	State loan program College loan program Bank loan
Grant or Scholarship	Basic Educational Opportunity Grant Supplemental Educational Opportunity Grant ROTC Scholarship Social Security Benefits for Children Nursing Scholarship Program Veteran Administration Survivors' & Dependents' Educational Assistance Program Veterans' Educational Assistance Program Vocational Rehabilitation Educational Benefits	State scholarship program College scholarship Scholarship from private organization
Work Programs	CETA College Work-Study Cooperative Education Program	

Fully two-thirds of the stayers who planned to go to college also planned to use some form of financial aid (Table 6.3). Approximately 56 percent planned on using some form of federal aid and 53 percent planned on using nonfederal aid. Except in one (predictable) case, plans for using financial aid were unrelated to socioeconomic status (SES). The one exception is that a significantly greater percentage of low SES stayers planned to use federal scholarships or grants than did middle or high SES stayers (Table 6.3).

Additional information regarding stayers' plans to use various types of federal financial aid is presented in Table 6.4. The three best known programs were the Supplemental Education Opportunity Grant (58.1 percent), the National Direct Student Loan (59 percent), and the Federal Guaranteed Student Loan (66 percent). However, the largest percentages of stayers planned to use Pell grants (24 percent) and college work-study (38 percent).

Table 6.3

PERCENTAGES OF STAYERS WHO PLANNED TO USE FINANCIAL AID PROGRAMS, BY SOCIOECONOMIC STATUS, SPRING 1982

Type of Financial Aid Program	All Students	Socioeconomic Status		
		Low	Middle	High
Scholarship, grant, loan, or work program	66.6	65.5	66.9	66.4
Federal	56.1	61.3	59.4	51.1
Nonfederal	52.5	56.7	52.0	52.1
Scholarship or grant	54.9	60.0	53.6	55.4
Federal	37.6	59.4	39.3	30.5
Nonfederal	43.4	40.0	43.8	43.6
Loan	37.9	45.5	40.9	32.4
Federal	20.7	27.3	23.2	16.2
Nonfederal	31.7	38.2	33.5	28.0
Work program (e.g., CETA)	34.9	28.1	39.5	30.5

Table 6.4

PERCENTAGES OF COLLEGE BOUND STAYERS KNEW ABOUT AND PLANNED TO USE SPECIFIC FEDERAL FINANCIAL AID PROGRAMS, BY SOCIOECONOMIC STATUS, SPRING 1982

Federal Program	Knew About the Program	Planned To Use Program			
			Socioeconomic Status		
		All	Low	Middle	High
Basic Educational Opportunity Grant (Pell)	30.6	24.2	50.0	20.7	16.1
Supplemental Educational Opportunity Grant	58.1	7.3	11.1	7.3	5.5
National Direct Student Loan	59.0	8.4	8.9	8.0	8.7
Federal Guaranteed Student Loan	66.3	20.9	31.1	23.0	13.2
CETA-sponsored Youth Development	39.9	3.7	9.3	2.8	2.2
College Work-study	24.8	37.8	43.2	39.1	33.7
Co-op Education	36.5	11.1	18.2	11.0	7.7

In general, plans to use one or another form of federal aid were unrelated to SES. The one exception is the Federal Guaranteed Student Loan Program. As SES increased, the percentage of stayers planning to use the FGSLP decreased.

Additional analyses, not shown in Table 6.4, found a relationship between race/ethnicity and the percentage of stayers planning to use Pell grants. A greater percentage of blacks (48 percent) than Hispanics (28 percent) or Asians (26 percent) planned to use Pell grants, and the percentage of stayers in these groups was greater than that of whites planning to use Pell grants (20 percent).

FIELDS OF STUDY

The two most popular majors, judging from the percentage of stayers' planning to enter them, were business (18 percent) and engineering (14 percent). As expected, plans for major systematically varied according to gender: A greater percentage of males than

females planned to enter engineering and computer science, while a greater percentage of females planned to enter health services and education. Plans for college major also varied as a function of stayers' cognitive-test performance. On average, a greater percentage of high ability stayers planned to major in engineering and preprofessional fields than middle or low ability stayers (Table 6.5).

Table 6.5

PERCENTAGES OF COLLEGE BOUND STAYERS WHO INDICATED THEY WOULD LIKE TO PURSUE VARIOUS FIELDS OF STUDY IN COLLEGE, BY GENDER AND COGNITIVE-TEST PERFORMANCE, SPRING 1982[a]

Field of Study	All Students	Gender		Cognitive Test Performance		
		Male	Female	Low	Middle	High
Business	18.3	14.2	22.5	26.2	18.2	15.2
Engineering	14.3	28.4	0.0	4.8	11.2	23.9
Health services	5.4	0.7	10.1	11.9	5.6	2.2
Humanities/fine arts	9.3	8.5	10.1	9.5	9.1	7.6
Preprofessional	7.2	6.4	8.0	0.0	6.3	12.0
Computer science	9.3	13.5	5.1	4.8	10.5	9.8
Social sciences	7.5	6.4	8.7	4.8	7.0	9.8
Education	4.0	0.0	8.0	7.1	4.9	1.1
Biological or physical sciences	5.7	3.5	8.0	4.8	4.9	7.6
Mathematics	1.4	0.7	2.2	0.0	2.1	1.1
Other[b]	14.7	15.6	13.8	21.4	17.5	7.6

[a]Percentages based on fewer than 20 cases omitted.

[b]Architecture, agriculture, communications, home economics, vocational/technical, and interdisciplinary studies.

VII. CONCLUSIONS

Four conclusions emerge from the analyses presented in this Note. The first follows from DoDDS' decision to follow up only those 1980 sophomores who, in 1982, had remained in their original (1980) high schools. Generalizations based on data from the DoDDS sophomore cohort of High School and Beyond are greatly limited in scope and hence may be limited in utility. The second conclusion, closely related to the first, is that the sophomores who stayed in the same high school from 1980 to 1982 ("stayers") differed significantly from those who left ("leavers") in terms of their background, cognitive-test performance, high school program, and life values. Third, the pattern of relations between stayers' characteristics (such as gender, race/ethnicity, socioeconomic status, and high-school program) and cognitive-test performance, high school participation variables, employment, and plans for college are generally similar to the patterns reported for high school students at large. Finally, data on time spent on homework and time spent watching television suggest that DoDDS officials might consider policies that increase the former and decrease the latter.

LIMITED SCOPE

The decision not to collect data from leavers reduced the base-year (1980) sample of 1638 DoDDS sophomores to 423 in the first followup (1982). As a consequence, the sample of stayers is too small for an adequate study of subgroups of students. For example, comparison of the verbal ability of students varying in race/ethnicity produces precariously small subsamples: 64 Hispanics, 1 American Indian, 30 Asians, 35 blacks, 277 whites, and 6 "other." Clearly, these small sample sizes raise concerns about the accuracy of inferences.

SELECTION BIAS

The sample of 423 stayers is not representative of the larger class from which they were drawn (sophomores in 1980). Analyses reported in Sec. II lead to the conclusion that the loss of three-fourths of the sample was not random. Rather, certain factors--such as rotation of overseas military personnel every three years, early graduation, and dropouts--led to systematic differences between the stayers and leavers. Inferences can be drawn, at best, from the sample of stayers to the population of stayers.

PATTERNS OF FINDINGS

The pattern of relationships between stayer characteristics and cognitive-test performance, high school experiences, activities outside of school, and plans for attending college parallel the relationships in the wider population. For example, the pattern of mean scores on cognitive tests parallel those in the larger high school population: Females score higher on verbal ability and males score higher on quantitative ability and science achievement; (non-Hispanic) whites and Asians score higher than Hispanics and blacks on verbal and quantitative ability and on science achievement; as socioeconomic status increases, so do test scores; and as stayers' high school programs become increasingly academic, mean cognitive test scores correspondingly increase.

Patterns among stayer characteristics and high school experiences are not exceptional either. For example, males report, on average, taking more coursework in mathematics, trade, and technical subjects; females report taking more coursework in foreign language and business; and stayers report taking less than four semesters of science over a three-year period. Overall, only 38 percent of the stayers spent, on average, one or more hours per day on homework, with females reporting spending more time than males and stayers in the academic program spending more time than stayers in other programs. Grades in DoDDS reflect grade inflation or a positive response bias. Overall, stayers report earning mostly Bs with females reporting a higher mean GPA than

males. Finally, less than 25 percent of the stayers reported participating in one or another federally funded education/work program.

Over half of the stayers reported working, and another 16 percent reported that they were looking for jobs. Those who were employed reported working, on average, 15 hours per week and earning $3.00 per hour. Although females reported working roughly the same number of hours per week, they earned less per hour than males. Males tended to work traditionally male jobs (lawns, gas stations, store clerks), and females tended to take traditionally female jobs (child care, health-related work).

Roughly three-fourths of the stayers reported participating in organized team sports, 70 percent in academic clubs or student government, and half in community service. Males were more likely to report involvement in sports, and females were more likely to report participating in performing arts activities.

Fully 69 percent of the stayers reported planning to enter college in fall 1982. As socioeconomic status, cognitive-test performance, and academic orientation of the stayer's high school program increased, so did the percent of stayers planning to attend college. Two-thirds of the stayers planning to enter college also planned to use some form of financial aid; 56 percent planned on federal aid and 53 percent on nonfederal aid. By far the most "popular" forms of federal aid were Pell grants and College Work Study.

Business and engineering were the most popular majors among those stayers planning to enter college in the fall. Plans for academic major followed traditional gender lines. A greater percentage of males planned on majoring in engineering and computer science, and a greater percentage of females planned on entering health services and education majors.

WATCHING TELEVISION AND DOING HOMEWORK: POSSIBLE POLICY IMPLICATIONS

Stayers who spent three or more hours per day watching television tended to have lower cognitive-test scores and lower grade-point-averages than did stayers who watched television less. Furthermore, the TV watchers tended to participate less in academic clubs and school

government than did their peers, and fewer TV watchers planned to enter college the following fall. Taken together, a pattern emerges: Stayers who watch television less appear to fill some of their time by doing homework and participating in school and out-of-school activities.

Overall, only 38 percent of the stayers spent five or more hours per week on homework. This finding in itself might well lead to a recommendation that DoDDS officials re-examine their policy regarding the amount of homework assigned in DoDDS high schools. Such a recommendation is bolstered by other findings reported herein, such as the positive relation between cognitive-test scores and amount of time spent on homework, and between grades and time spent on homework. This policy should incorporate research findings that *assigning* more homework is not related to achievement gains but assigning more homework and *correcting it* with *comments* to students is.

A caveat is in order. The observed relationships among homework, ability, and grades do *not* indicate causality. Some other variable, such as peer pressure, might explain these relationships.

DoDDS officials might review existing data or collect additional data bearing on television watching, homework, and academic performance indicators. If these data corroborate the findings of this study, DoDDS might formulate a policy to increase the amount of homework and carefully monitor its implementation.

Appendix

DEFINITIONS OF VARIABLES

This appendix lists the definitions of the variables used in the various analyses. It also includes certain other variables that did not appear in the analyses but were needed to define variables that did. The variables are defined in terms of responses to questionnaire items and subtest scores. The High School and Beyond Manual (Jones et al., 1983) contains a copy of the survey as well as counts of responses for stateside students.

Variable Name	Descripton	Definition
ID	Student identifier	ID (1-6). A 6 digit code (I6) such that the first 4 digits identify the student's school.
BYPART	Student participation in base year	BYPART (8). Coded 1 if participated in base year, 0 otherwise.
FU1PART	Student participation in follow-up '82	FU1PART (9). Coded 1 if participated in first follow up, 0 otherwise.
PART	Identifies whether student participated (a) only in base year, (b) only in follow up, or (c) in both surveys	PART = 1 if BYPART = 1 and FUPART = 0; 2 if BYPART = 1 and FUPART = 1; else 0.
SOQFLAG	Questionnaire data available	SOQFLAG (12). Coded 1 if yes, 0 otherwise.
SEX	Indicates sex	SEX (30). Coded 1 if male, 0 if female.

RACE	Race/ethnicity of student	RACE (31). Coded as: 1 = Hispanic or Spanish, 2 = American Indian or Alaskan Native, 3 = Asian or Pacific Islander, 4 = Black, 5 = White, 6 = Other.
BYTEST	Student base year	Test composite consisting of reading, vocabulary and mathematics Standardized test (T) scores.
BYTESTQ	Student base year test score quartile	BYTESTQ (37). Coded as: Test composite quartile for BYTEST: 1 = lowest ... 4 = highest; 8,9 = missing.
BYCOGPERF	Student base year cognitive test performance	Recodes BYTESTQ (49) as: BYTESTQ 1 2 3 4 >4 BYCOGPERF 1 2 2 3 missing 1 = low 2 = middle 3 = high.
BYSESQ	Student base year SES quartile	BYSESQ (43). SES composite quartile consisting of father's and mother's education, father's occupation, family income, and nature (and number) of household possessions.
BYSESLMH	Student base year SES: low, middle, high	Recode BYSESQ (43) as: BYSESQ 1 2 3 4 >4 BYSESLMH 1 2 2 3 missing 1 = low 2 = middle 3 = high.
FUTEST	Follow-up test composite	FUTEST (44-48). Same as BYTEST but measured in the 1982 follow up.
FUSESQ	Follow-up SES Quartiles	FUSESQ (55). Same as BYSESQ but measured in the 1982 follow up.
FUSESHML	Follow-up SES: low middle, high	Same as BYSESLMH but based on FUSESQ.

BYHSPROG	High school program in base year	BB002 (236-237): 1 = General 2 = Academic Recode: 3-9 = 3 3 = Vocational 96-98 = missing
BYCHGSCH	Number of school changes since 5th grade--reported in base year	YB011 (350). Recode as: 0 = never 1 = once 2 = twice 3 = three times or more 6 = missing 8 = missing
BYMAMON	Mother monitors school work in base year	Recode BB046A (481) as follows: BB046A: 1 2 3 6 8 BYMAMON: 1 0 0 missing
BYPAMON	Father monitors school work in base year	Same as BYMAMON, but use BB046B (482).
BYMAPA	Sum of BYMAMON and BYPAMON	BYMAMON + BYPAMON.
BYPARMON	Parents monitor school work in base year	Recode BYMAPA as follows: BYMAPA: 0 1 2 BYPARMON: 0 1 1
BYSUCC	Being successful in life	Recode BB057A (565) as follows: 1-2 = 0; 3 = 1 (very important); 6, 8 missing.
BYMARRY	Find right person to marry (base year)	Recode BB057B (566) like BYSUCC.
BYMONEY	Having lots of money (base year)	Recode BB057C (567) like BYSUCC.
BYFRIENDS	Having strong friendships (base year)	Recode BB057D (568) like BYSUCC.
BYWORK	Finding steady work (base year)	Recode BB057E (569) like BYSUCC.
BYLEADER	Being a community leader (base year)	Recode BB057F (570) like BYSUCC.

BYCHILD	Providing better options for kids (base year)	Recode BB057G (571) like BYSUCC.
BYPARENTS	Living close to parents (base year)	Recode BB057H (572) like BYSUCC.
BYMOVE	Wanting to move from this area country (base year)	Recode BB057I (573) like BYSUCC.
BYINEQ	Correcting social & economic inequities (base year)	Recode BB057J (574) like BYSUCC.
BYHVKID	Having children	Recode BB057K (575) like BYSUCC.
BYLEISUR	Having leisure time to enjoy	Recode BB057L (576) like BYSUCC.
BYVOCAB	Vocabulary subtest (formula score) (base year)	Use YBVOCBFS (864-869); rngs from -5.25 to 21.00.
BYREAD	Reading subtest (formula score) (base year)	Use YBREADFS (882-887); rngs from -4.75 to 19.00.
BYMATH1	Math1 subtest (formula score) (base year)	Use YBMTH1FS (900-905); rngs from -9.34 to 28.00.
BYMATH2	Math2 subtest (formula score) (base year)	Use YBMTH2FS (918-923); rngs from -3.34 to 10.00.
BYSCI	Science subtest (formula score) (base year)	Use YBSCINFS (936-941); rngs from -5.00 to 20.00.
BYWRITE	Writing subtest (formula score) (base year)	Use YBWRITFS (954-959); rngs from -5.67 to 17.00.
BYVERB	Verbal skills	BYVOCAB+BYREAD+BYWRITE.
BYMATH	Mathematics skills	BYMATH1+BYMATH2.

FUHSPROG	High school program in follow-up year	FY2 (1229-1230): 1 = General 2 = Academic Recode: 3-9 = 3 3 = Vocational 96-98 = missing
SEMMATH	Semesters of math	Recodes FY4A (1237-1238) using FY4A -1 if FY4A <= 8, otherwise missing (code = 96-98).
SEMENGL	Semesters of English	Coded like SEMMATH but uses FY4B (1239-1240) instead of FY4A.
SEMFREN	Semesters of French	Coded like SEMMATH but uses FY4C (1241-1242).
SEMGERM	Semesters of German	Coded like SEMMATH but uses FY4D (1243-1244).
SEMSPAN	Semesters of Spanish	Coded like SEMMATH but uses FY4E (1245-1246).
SEMOTHLG	Semesters of other foreign languages	Coded like SEMMATH but uses FY4F (1247-1248).
SEMFORLG	Semesters of foreign language	SEMFRENCH+SEMGERMAN+ SEMSPANISH+SEMOTHLG.
SEMSOCSC	Semesters of social science	Coded like SEMMATH but uses FY4G (1249-1250).
SEMSCI	Semesters of science	Coded like SEMMATH but uses FY4H (1251-1252).
SEMBUS	Semesters of business and sales	Coded like SEMMATH but uses FY4I (1253-1254).
SEMTRDE	Semesters of trade and industrial	Coded like SEMMATH but uses FY4J (1255-1256).
SEMTECH	Semesters of technical courses	Coded like SEMMATH but uses FY4K (1257-1258).

GRADES	Grades on a 100 point scale	Recodes FY7 (1289-1290) as follows: 94 if FY7 = 1, 97-(5*FY7) if 2 <= FY7 <= 8; 96-98 = missing. 94 = Mostly A's 87 = About half A's & B's 82 = Mostly B's . . . 62 = Mostly D's 57 = Mostly below D.
RMDLENG	Participation in remedial English	Coded like FY9A: 1 if no, 2 if yes; 6-8 = missing (1294).
RMDLMATH	Participation in remedial math	Coded like RMDLENG but uses FY9B (1295).
RMDLEM	Sum of RMDLENG and RMDLMATH	RMDLENG+RMDLMATH.
RMDLBOTH	Participation in both remedial English and math	Recode RMDLEM as follows: (<=3) = 1--no 4 = 2--yes >4 = missing.
HONENG	Participation in honors English	Coded like RMDLENG but uses FY9C (1296).
HONMATH	Participation in honors math	Coded like RMDLENG but uses FY9D (1297).
HONEM	Sum of HONENG and HONMATH	HONENG+HONMATH.
HONBOTH	Participation in both honors English & math	Coded like RMDLBOTH but uses HONEM.
BILING	Participation in bi-lingual or bicultural	Coded like FY9E: 1 if no, 2 if yes (1298).
EDHCP	Participation in educationally handi-capped program	FY9H (1301): 0 if no, 1 if yes.
PHYHCP	Participation in physically handi-capped program	Coded like EDHCP but uses FY9I (1302).
HANDIPRO	Participated in program for handicapped	EDHCP+PHYHCP; if HANDIPRO > 0, then HANDIPRO = 1.

COOP	Participation in Cooperative Voc. Ed. Program	Code as follows: FY11A 1 2 3 (1307) COOP 0 0 1 0 = not participated 1 = participated 6,8 = missing data.
WKSTDY	Participation in vocational educ. work study	Coded like COOP but uses FY11B (1308).
CPWS	Sum of COOP and WKSTDY	COOP+WKSTDY
CPORWS	Participated in either COOP or WKSTDY	Recode CPWS as follows: 0 = no 1 = yes if 1 <= CPWS <=2 missing => 5.
TALENT	Participated in Talent Search	Coded like COOP but use FY11C (1309).
UPWARD	Participated in Upward Bound	Coded like COOP but use FY11D (1310).
TALUP	Sum of TALENT and UPWARD	TALENT+UPWARD
TALORUP	Participated in either TALENT or UPWARD	Coded like CPORWS but uses TALUP.
CETA	Participated in CETA	Coded like COOP but use FY11H (1314).
SUMFIVE	Sum of COOP, WKSTDY, TALENT, UPWARD, CETA	COORWS+TALORUP+CETA.
ALLPROG	Participated in Federal program	Recode SUMFIVE as follows: 1 = no if SUMFIVE = 0, 2 = yes if <= SUMFIVE <= 3.
HOMEWORK	Percent spending at least 5 hours per week on homework	Recode FY15 as follows: FY15 1 2 3 4 5 6 7 8 1 1 1 1 1 2 2 2 1 = less than 5 hours per week, 2 = at least 5 hours per week. Tape Pos.: 1323-1324

DMYHWK	Dummy for hours spent on homework: 1, between 1 and 5, 5 or more	Recode FY15 (1323-1324) as follows: FY15: 1 2 3 4 5 6 7 8 1 1 1 2 2 3 3 3 96,97,98 = missing
JOB1	Worked for pay last week	Use FY22. 1 if yes, 2 if no; 6,8 = missing.
UNEMPL	Student looking for work	Use FY23 (1350) 1 if yes, 2 if no; 8 missing.
JOB2	Worked for pay in past 3 months	Recode FY24 as follows: FY24 1 2 3 4 5 6 7 JOB 0 1 1 1 0 0 0
JOB	Worked for pay in past month combining JOB1 and JOB2	JOB1+JOB2 and recode JOB (0 = 0), (1,2) = 1.
HRSWORK	Number of hours per week student worked at a job	Recodes FY25 (1363-1364) as follows: FY25 1 2 3 4 5 6 7 8 0 2.5 9.5 18 25.5 32 37.5 37.5
RNGHRSWK	Range of hours worked last week (for Table 13)	Recodes FY25 (1363-1364) as follows: FY25: 1 2 3 4 5 6 7 8 0 1 1 1 1 2 2 2 66,67,68 = missing
PAYHR	Amount student earned per hour	Recodes FY26 (1365-1366) as follows: FY26 PAYHR 1 1.75 2 2.25 3 2.70 4 3.12 5 3.62 6 4.20 7 4.75 8+ missing
PAYWK	Average weekly earnings	HRSWORK*PAYHR

TYPEJOB	Type of job worked	If JOB = 1, Coded as FY29 (1373-1374) 1 = Not listed 2 = Lawn work ... 3 = Waiter ... 4 = Babysitting ... 5 = Farm ... 6 = Factory work ... 7 = Other manual labor ... 8 = Store clerk ... 9 = Office or clerical 10 = Hospital or health 11 = Other (describe) 12 = Gas station ... 13 = Delivery jobs ...
PCTTRNG	Percent of time spent in training on job	Recode FY32 (1379-1380) as follows: FY32 1 2 3 4 5 6 >6 0 0 1 1 1 1 missing
VARSITY	Participation in varsity athletic teams	Recode FY38A (1394) as follows: FY38A 1 2 3 6 8 0 1 1 missing
OTHATHL	Participation on other athletic teams, in or out of school	Recode FY38B (1395) like VARSITY but use FY38B
VAROTH	Sum of VARSITY and OTHATHL	VARSITY + OTHATHL
TEAMS	Participation on athletic teams	Recode VAROTH as follows VAROTH 0 1 2 TEAMS 0 1 1 0 = not participated 1 = participated
DRAMA	Participation in debating or drama	Recode FY38D (1397) like VARSITY but use FY38D.
ORCH	Participation in band or orchestra	Recode FY38E (1398) like VARSITY but use FY38E.
CHORUS	Participation in chorus or dance	Recode FY38F (1399) like VARSITY but use FY38F.
HOBBY	Participation in hobby clubs	Recode FY38G (1400) like VARSITY but use FY38G.

HONOR	Participation in honorary clubs	Recode FY38H (1401) like VARSITY but use FY38H.
NEWS	Participation in school newspaper or yearbook	Recode FY38I (1402) like VARSITY but use FY38I.
SMCLUB	Participation in subject-matter clubs	Recode FY38J (1403) like VARSITY but use FY38J.
GOVT	Participation in student council/ government	Recode FY38K (1404) like VARSITY but use FY38K.
YOUTH	Participation in community youth organizations	Recode FY38M (1406) like VARSITY but use FY38M.
CHURCH	Participation in church activities	Recode FY38N (1407) like VARSITY but use FY38N.
JRACH	Participation in Junior Achievement	Recode FY38O (1408) like VARSITY but use FY38O.
SERVCLB	Participation in service clubs	Recode FY38P (1409) like VARSITY but use FY38P.
FUMAMON	Mother monitors school work in follow-up year	Recode FY57A (1474) as follows: FY57A 1 2 3 6 8 1 0 0 missing
FUPAMON	Father monitors school work in follow-up year	Same as FUMAMON but use FY57B (1475)
FUMAPA	Sum of FUMAMON and FUPAMON	FUMAMON + FUPAMON
FUPARMON	Parents monitor school work in follow-up year	Recode FUMAPA as follows: BYMAPA: 0 1 2 BYPARMON: 0 1 1
READING	Student reads for pleasure at least once or twice a week	Recode FY60B (1493) as: FY60B: 1 2 3 4 6 8 DATING: 0 0 1 1 missing

DATING	Student dates at least once or twice a week	Recode FY60C (1494) as follows: FY60C 1 2 3 4 6 8 DATING: 0 0 1 1 missing
RDPAPER	Student reads newspaper once or twice a week	Recode FY60G (1498) like DATING but use FY60G.
TVWATCH	Student watches weekday television (Tables 13, 14)	Recode FY61 (1499-1500) as follows: FY61: 1 2 3 4 5 6 7 96-98 1 2 2 2 3 3 3 miss
DISCPROB	Student had disciplinary problems	FY66B (1529): 1 if true, 2 if false; 6,8 = missing.
SUSPDISC	Student suspended for disciplinary reasons	FY66E (1532): coded same as DISCPROB
CUTCLASS	Student cuts class once in a while	FY66F (1533): coded same as DISCPROB.
PLANCOLL	Student plans to go to college next year	Recode FY122 (1756) as follows: FY122 PLANCOLL 1 1 2-5 0 6-8 missing
BUSINESS	Plans to study in field of business	Recode FY127 (1777-1778) as follows: 5 = 1 (yes); 1-4, 6-25 = 2 (no); 96, 98-99 = missing.
ENGINEER	Plans to study engineering	Recode FY127 (1777-1778) as follows: 9 = 1 (yes); 1-8, 10-25 = 2 (no); 96, 98-99 = missing.
HEALTH	Plans to study in health services fields	Recode FY127 (1777-1778) as follows: 13-14 = 1 (yes); 1-12, 15-25 = 2 (no); 96, 98-99 = missing.

HUMANIT	Plans to study in humanities fields	Recode FY127 (1777-1778) as follows: 3, 10-12, 18-19 = 1 (yes); 1-2, 4-9, 13-17, 20-25 = 2 (no); 96, 98-99 = missing.
PREPROF	Plans to study in preprof fields (e.g., premed, prelaw)	Recode FY127 (1777-1778) as follows: 21 = 1 (yes); 1-20, 22-25 = 2 (no); 96, 98-99 = missing.
CMPTRSCI	Plans to study in computer science	Recode FY127 (1777-1778) as follows: 7 = 1 (yes); 1-6, 8-25 = 2 (no); 96, 98-99 = missing.
SOCSCI	Plans to study social science	Recode FY127 (1777-1778) as follows: 23 = 1 (yes); 1-22, 24-25 = 2 (no); 96, 98-99 = missing.
EDUCAT	Plans to study in field of education	Recode FY127 (1777-1778) as follows: 8 = 1 (yes); 1-7, 9-25 = 2 (no); 96, 98-99 = missing.
SCIENCE	Plans to study in fields of science	Recode FY127 (1777-1778) as follows: 4, 20 = 1 (yes); 1-3, 5-19, 21-25 = 2 (no); 96, 98-99 = missing.
MATH	Plans to study in fields of mathematics	Recode FY127 (1777-1778) as follows: 17 = 1 (yes); 1-16, 18-25 = 2 (no); 96, 98-99 = missing.
OTHER	Plans to study in other fields (architecture, agriculture, communications, home econ.)	Recode FY127 (1777-1778) as follows: 1-2, 6, 15-16, 24-25 = 1 (yes); 3-5, 7-14, 17-23 = 2 (no); 96, 98-99 = missing.
KNOWNDSL	Student knows about NDSL	Recode FY128AA (1779) as follows: 1-2 = 1 (know); 3 = 3 (not know); 6 - 9 = missing.

USENDSL	Student plans to use NDSL	Recode FY128AA (1779) as follows: FY USENDSL 1 = 0 (do not plan to use) 2 = 1 (plan to use) 3 = 0 (not know about) 6-9 = missing.
KNOWGSLP	Knows about Fed guaranteed student loan program	Code as KNOWNDSL but use FY128AB (1780).
USEGSLP	Plans to use Fed GSLP	Code as USENDSL but use FY128AB (1780).
USENURSE	Plans to use Fed nursing student loan program	Code as USENDSL but use FY128AC (1781).
USESTLN	Plans to use state student loan program	Code as USENDSL but use FY128AD (1782).
USECOLLN	Plans to use college loan program	Code as USENDSL but use FY128AE (1783).
USEBKLN	Plans to use bank loan	Coded as USENDSL but use FY128AF (1784).
USELOAN	Plans to use one or more loan for college	USENDSL+USEGSLP+USENURSE+ USESTLN+USECOLLN+USEBKLN; if USELOAN > 0 then USELOAN = 1.
FEDLOAN	Plans to use a federal loan	USENDSL+USEGSLP+USENURSE; if FEDLOAN > 0 then FEDLOAN = 1.
NONFEDLN	Plans to use a non-fed loan	USESTLN+USECOLLN+USEBKLN; if NONFEDLN > 0 then NONFEDLN = 1.
LOAN	Plans to use a loan	FEDLOAN+NONFEDLN; if LOAN > 0, the LOAN = 1.
KNOWPELL	Knows about Pell grants	Code as KNOWNDSL but use FY128BA (1785).
USEPELL	Plans to use a Pell grant	Code as USENDSL but use FY128BA (1785).

KNOWSEOG	Knows about suppl. educational oppor. grant	Code as KNOWNDSL but use FY128BB (1786).
USESEOG	Plans to use SEOG	Code as USENDSL but use FY128BB (1786).
USEROTC	Plans to uses ROTC scholarship	Code as USENDSL but use FY128BC (1787).
USESOCSC	Plans to use social security benefits for children	Code as USENDSL but use FY128BD (1788).
USENURSC	Plans to use nursing scholarship	Code as USENDSL but use FY128BE (1789).
USEVET	Plans to use veteran adm. survivor & dep. ed. assist. prog.	Code as USENDSL but use FY128BF (1790).
USEVEAP	Plans to use VEAP	Code as USENDSL but use FY128BG (1791).
FEDGRANT	Plans to use federal grant or scholarship	USEPELL+USESEOG+USEROTC+ USESOCSC+USENURSC+USEVET+ USEVEAP+USEVOCSC; if FEDGRANT > 0, then FEDGRANT = 1.
USESTSC	Plans to use state scholarship	Code as USENDSL but use FY128BH (1792).
USECOLSC	Plans to use college scholarship	Code as USENDSL but use FY128BI (1793).
USEPRISC	Plans to use private scholarship	Code as USENDSL but use FY128BJ (1794).
USEVOCSC	Plans to use voc. rehabil. ed. bene.	Code as USENDSL but use FY128BK (1795).
NONFEDSC	Plans to use a non-fed scholarship	USESTSC+USECOLSC+USEPRISC; if NONFEDSC > 0 then NONFEDSC = 1.
GRANT	Plans to use a grant or scholarship to pay for college	FEDGRANT+NONFEDSC; if GRANT > 0 then GRANT = 1.

KNOWCETA	Student knows of CETA work prog	Code as KNOWNDSL but use FY128CA (1796).
USECETA	Plans to use CETA	Code as USENDSL but use FY128CA (1796).
KNOWCLWS	Knows of college work-study program	Code as KNOWNDSL but use FY128CB (1797).
USECLWS	Plans to use college work study	Code as USENDSK but use FY128CB (1797).
KNOWCOOP	Knows about coop. educ. program	Code as KNOWNDSL but use FY128CC (1798).
USECOOP	Plans to use Coop	Code as USENDSL but use FY128CC (1798).
WORKSTUD	Plans to use a work program to cover college expenses	USECETA+USECLWS+USECOOP; if WORKSTUD > 0, then WORKSTUD = 1.
LNGTWS	Plans to use some form of financial aid (loan, grant, work study)	LOAN+GRANT+WORKSTUD; if LNGTWS > 0, then LNGTWS = 1 (yes).
FYVOCAB	Vocabulary subtest (formula score) (follow-up year)	Use FYVOCBFS (2933-2938); rngs from -5.25 to 21.00.
FYREAD	Reading subtest (formula score)	Use FYREADFS (2951-2956); rngs from -4.75 to 19.00.
FYMATH1	Math1 subtest (formula score) (follow-up year)	Use FYMTH1FS (2969-2974); rngs from -9.33 to 28.00.
FYMATH2	Math2 subtest (formula score) (follow-up year)	Use FYMTH2FS (2987-2992); rngs from -3.33 to 10.00.
FYSCI	Science subtest (formula score) (follow-up year)	Use FYSCINFS (3005-3010); rngs from -5.00 to 20.00.
FYWRITE	Writing subtest (formula score) (follow-up year)	Use FYWRITFS (3023-3028); rngs from -5.67 to 17.00.

FYVERB	Verbal skills	FYVOCAB+FYREAD+FYWRITE.
FYMATH	Mathematics skills	FYMATH1+FYMATH2.

REFERENCES

Bartell, T., and L. LeBlanc, *Report on Legislative and Funding Recommendations: DoDDS Comprehensive Study*, Advanced Technology, Reston, Va., May 1983.

Bartell, T., et al., *Report on the Comprehensive Study of the Department of Defense Dependents Schools*, Advanced Technology, Reston, Va., May 1983a.

Bartell, T., W. Keesling, G. Kelly, and J. Shortel, *Executive Summary: DoDDS Comprehensive Summary*, Advanced Technology, Reston, Va., May 1983b.

Cardinale, A., *High School and Beyond: Summary of the Base Year Results for Sophomore and Senior Students in Department of Defense Dependents Schools--Spring 1980*, Department of Defense Dependents Schools, Alexandria, Va., June 1981.

Coleman, J. S., T. Hoffer, and S. Kilgore, *High School Achievement: Public, Catholic, and Private Schools Compared*, Basic Books, New York, 1982.

Fisher, C. W. et al., *Teaching Behavior, Academic Learning Time and Student Achievement* (Final Report of Phase III-B, Beginning Teacher Evaluation Study), San Francisco, Ca., Far West Laboratory, 1978.

GAO, *Management Control of the Department of Defense Overseas Dependents Schools Needs To Be Strengthened: Report to the Secretary of Defense*, GAO/HRD-83-3, Document Handling and Information Services Facility, Gaithersburg, Md., November 1982.

Heyns, B., and T. L. Hilton, "The Cognitive Tests for High School and Beyond: An Assessment," *Sociology of Education*, Vol. 55, 1982, pp. 89-102.

Jones, D., et al., *High School and Beyond: 1980 Sophomore Cohort First Follow-Up (1982), Data File User's Manual*, National Center for Education Statistics, Washington, D.C., 1983.

Manski, C. F., and D. A. Wise, *College Choice in America*, Harvard University Press, Cambridge, Mass., 1983.

National Center for Education Statistics (NCES), *Two Years in High School: The Status of 1980 Sophomores in 1982* (Draft), Longitudinal Studies Branch, Division of Multilevel Education Statistics, U.S. Department of Education, Washington, D.C., n.d.

National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Educational Reform*, U.S. Department of Education, Washington, D.C., April 1983.

Shavelson, R. J., G. W. Haggstrom, and J. D. Winkler, *Potential for Military Recruiting from Two-Year Colleges and Postsecondary Vocational Schools*, The Rand Corporation, N-1946-MRAL, January 1983.

Tverksy, A., and D. Kahneman, "Judgment Under Uncertainty, Heuristics and Biases," *Science*, Vol. 195, 1974, pp. 1124-1131.